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RESTRUCTURING AN ENGLISH FOR SPECIFIC PURPOSES (ESP) AVIATION CURRICULUM: A WORK IN PROGRES

ABSTRACT

The Defense Language Institute English Language Center (DLIELC) is involved in the process of completely restructuring our aviation curriculum by moving from a fixed approach to aviation ESP to a more flexible one for the instructors and the students. The ANC course (an abbreviation for the three major themes—Aviation, Communication, and Navigation) is expected to be able to treat the language needs of students with varying aviation expertise and varying language abilities. After channeling students through somewhat inflexible, week-long thematic instructional modules for a number of years, DLIELC is moving "outside the box" in its treatment of aviation language for nonnative speakers of English. Each of the three major themes is being treated with a balanced effort directed toward language resources (topical articles, reading passages, audiovisual materials, and research assignments) and activities that relate to them. The instructors and students will collaborate to select the resources and activities for study that are most relevant to both their aviation specialties and their individual language learning needs. Some of the specialties represented are military undergraduate pilot (fixed wing or rotary wing), experienced pilot (fighter and transport), test pilot candidate, air traffic controller, navigator, and weapons controller. This paper will describe the restructured curriculum and discuss areas of potential challenge in its implementation.

BACKGROUND

DLIELC has been in the aviation ESP training field for over 25 years, using an eclectic system of content-based language instruction. In the early years, the methodology was primarily based on the audiolingual approach of oral repetition of terminology, sentences with definitions, and short reading passages providing a context to carry the explanations of the terminology. In the early 1980's, the approach shifted to the inclusion of extracted text material from follow-on-training documents as the vehicle for practice with the terminology of the specialty and the treatment of this material via a study skills emphasis. Also, the texts began to introduce individual topics, such as weather, radio communication, NAVAIDs, etc. As newer and more sophisticated aircraft became available for international sales, DLIELC's aviation curriculum began to include an increasing amount of material that was specific to the particular types of aircraft being purchased by other

countries. This shift to weapon-specificity, however, proved to be limiting in terms of class sizes and cost effectiveness. What had begun as an initiative to delight the customer had an opposite effect—that of increasing instructor and student complaints. By focusing on the narrow spectrum of a particular aircraft and information related to it, instructional emphasis shifted away from language learning issues and toward a more discrete level of technical detail. This caused our ESL instructors to begin to feel frustrated for needing to spend valuable class time on deepening detail that they believed to be unnecessary for overall language improvement, and for not knowing all the technical information available in the text. The students also became frustrated since they felt that they needed to learn all the follow-on-training material they were being exposed to, while gaining little help from instructors who didn't seem to know much about the technical aspects of the material. To compound the problem, DLIELC had, by attempting to produce and teach material that had high face validity only to small populations of students, fallen into the trap of trying to be all things to all customers—an endeavor in which it could not realistically be successful. Additionally, students who came to the aviation materials from DLIELC's 16-week oral proficiency skills course saw their skills erode due to the emphasis on reading comprehension in the aviation materials. Finally, the assessment system focused upon discrete terminology item recognition and reading passage comprehension instead of on productive skills.

In the summer of 1997, DLIELC faced the reality of the situation and resolved to attack the problem. We began to recognize that focusing upon extreme aircraft detail was not the direction that should logically be taken. A solid foundation in general language and broad-use technical language was better. Also, our students arrived with a variety of language proficiency levels and needs. Some were coming in with high content knowledge but low language proficiency, while others were appearing with high proficiency and moderate-to-low content knowledge, plus permutations in between. A curriculum that was flexible enough to meet the variety of students' needs was definitely in order.

A DIFFERENT APPROACH

Using Stoller and Grabe's (1995) approach as the primary reference for the organization of the aviation curriculum, a structure was devised to provide flexibility to a diverse student population; to refocus priorities so they would more closely parallel those of the follow-on training; to integrate more listening and speaking materials into the curriculum; and to capture a more meaningful assessment of students' language performance. This new structure came to be called the "ANC" course, for Aviate (English Language Skills for Aviation), Navigate (English Language Skills for Navigation), and Communicate (English Language Skills for Communication). Each of these three major themes will be two weeks long. They will be preceded by a one-week orientation and followed by a two-week evaluation period. Each class week will consist of approximately 28 hours of classroom instruction and 10 hours of homework.

FEATURES

The ANC course will provide a menu of resources and a menu of accompanying language activities for each major theme, or block of instruction, for the instructors and students. Instructors will be able to select those materials that best meet each student's needs, and each student will participate in the selection of the materials. This will enable the student to invest in the selection, both in terms of interest and requirement, resulting in a higher level of motivation and success. The opportunities for tailored instruction and self-directed learning will increase. Additionally, the use of firmly-established and successful cooperative learning techniques will be abundant throughout the course. These techniques have, as one of their advantages, the shifting of the role of the instructor from purveyor of information and focal point of class attention to that of multi-roled supportive facilitator as described by Harel (1997) and McDonell (1997). Finally, each lesson will have clear language objectives.

Assessment

Historically, DLIELC has tested its aviation students with multiple-choice, discrete point achievement quizzes covering one week's worth of material. The ANC course will depart from that tradition by employing a language task assessment approach. Each block of instruction will have a number of language tasks identified for its completion requirements. These tasks will be of a simple "go/no go" sign-off nature. Speaking tasks will require "2" level speech (as measured on the Interagency Language Roundtable scale of proficiency). Each block will require 80% signoff for all the tasks within it. Additional opportunities for the students to be signed off on the tasks will be provided throughout the nine weeks. Each block will also have instructor/student conferencing time made available in order for the discussion of progress and remediation assignments to take place. The examples of some of the language tasks are: to read back an Instrument Flight Rules (IFR) route clearance; listen to an IFR clearance and identify the routing on an enroute chart; respond to a controller's request for information; listen to and interpret non-routine radio calls; examine a sectional chart (or Tactical Pilotage Chart) and orally describe a visual checkpoint; correctly verbalize aviation numbers; and give a simple preflight briefing.

Orientation

The first week of the nine-week ANC course will consist of orientation to the course and its requirements, plus an introduction to the format. It will cover the major resource topics of course objectives; setting language goals; language learning strategies; course policies, procedures, and assessment standards; cultural dimensions of training in the US; and an introduction to aviation weather. The language development activities related to the topics will include preliminary assessment of each student's language ability; language functions for effective group discussion; impromptu speaking; verbalizing aviation numbers; introduction to fundamental weather terminology; listening comprehension of Automatic Terminal Information Service (ATIS) broadcasts; and interpreting Aviation Routing Weather Reports (METAR). After their introduction, many of these activities will be practiced

in the following blocks, providing a thread of continuity for critical language skills. The orientation week will provide the foundation for the following ANC experience.

Flight Simulation

Beginning in the orientation week, the students will be introduced to the Personal Computer Aviation Training Devices (PCATD). After initial familiarization with the software to the degree that they can control the aircraft reasonably well, they will be required to practice speaking while engaged in attention-consuming collateral tasks—answering questions and providing verbal information while maintaining specified altitudes, headings, and airspeeds, or performing simple maneuvers such as climbing and descending turns. They will also be tasked to participate in four or five events of planning and flying specific simulated flights to pre-designated destinations. During these events, they may be paired with other classmates who will act as air traffic controllers or flight instructors, requiring the students flying the simulator to interact verbally with them. A debriefing requirement will be added to each event.

Communication

The Communication block will normally be the first after the orientation week that the students encounter. It will provide the initial exposure to radio communication practice for continuous reinforcement thereafter. The major resource topics for this block are the importance of effective radio communication; the airport and air traffic control system; the use of standardized phraseology; phase-by-phase overview of an IFR flight; introduction to the Airport/Facility Directory; and introduction to Approach Plates. The language development activities applied to the resources are accurate pronunciation and understanding of standardized phraseology; practice making the radio calls needed for each phase of flight; listening comprehension of non-routine radio calls; immediate oral response to controller calls; and speaking while collaterally tasked.

In addition to radio communication, this block will introduce, for further practice, treatment of social communication. In the follow-on-training environment, DLIELC's students are expected to give stand-up briefings before flying, and participate actively in the debriefing, or post-flight discussion, of the flight that just took place. Some of the cultures that DLIELC teaches are traditionally reluctant to initiate conversational exchanges, ask questions when they do not understand a point, or voluntarily produce the language in extended discourse. The communication block will provide opportunities for the students to develop strategies to take full advantage of the debriefings, such as activities for practicing "buying time" in order to organize their thoughts before the debriefing ("Could I have a few minutes to write down my questions?"); for expressing self-satisfaction/dissatisfaction with performance of portions of the flight ("I had no problem with…," or "I was confused when…"); for formulating questions ("Can you explain ____ for me?"); for narrating a sequence of events in the past; for understanding flight instructor comments that express praise or deficiencies; and for understanding flight instructor cultural expectations of response or silence when asking

questions of the student.

Aviation

The Aviation block will provide the students with a well-rounded exposure to the language associated with aircraft and flight, the aviator's interface with the machine and its environment, and the need for coordination between/among members of the flight crew. The major resource topics for this block are aerodynamics; structural components and controls; aircraft systems; preflight inspections; flight maneuvers; flight physiology; and cockpit/crew resource management. The applied language development activities are technical reading/note-taking/research skills; document literacy (understanding the organizational structure of flight manuals); vocabulary development with aviation terminology; stand-up briefing/group discussion skills; speaking under pressure; and listening comprehension of academic lectures.

Navigation

The Navigation block will teach and reinforce language related to techniques and equipment/technology/publications available to assist in flying from one point to another. Its major resource topics are types of navigation; aeronautical charts; Flight Information Publications (FLIPs); NAVAIDs and aircraft instruments; flight planning; and radar. The associated language development activities are technical reading/development of technical vocabulary; reading and interpreting charts, graphs, and diagrams; listening comprehension of preflight briefings; delivering preflight briefings; listening comprehension of academic lectures; and quantitative literacy (reading and verbalizing mathematical language).

Also, opportunities for the students to practice relevant social navigation will be provided. This entails introduction to and practice with cultural tips and language functions that help the students in culturally appropriate social interactions such as accepting/declining invitations or other offers; understanding US time and punctuality conventions; understanding and successfully managing male/female social interactions; and understanding US conventions related to who pays for what in various social situations.

Evaluation

The final block of instruction in the ANC course will be that of Evaluation. This block will have as its function the synthesis of all the ANC language skills developed to that point. It will include an evaluation of the student's final research project, which will be presented orally to a combined population of the student's class plus other classes. It will include a comprehensive evaluation of the student's language used to plan, brief, fly, and debrief a final simulated mission using the PCATD. Finally, it will include a variety of wrap-up/closure topics such as orientation to relevant follow-on-training sites; cultural lessons learned; and exposure to and appreciation of aviation humor. It will be the culmination of the student's experience in the ANC.

CHALLENGES OF IMPLEMENTATION

Instructor Training

The instructors who will normally be teaching the ANC are assigned to the aviation unit of DLIELC's Specialized English Training Branch. They have

been assigned to the unit based upon their interest in aviation, and some have flying experience. Throughout the development process of the ANC, they have been involved in various capacities, both for input and for tryout of potential activities, consistent with Hutchinson and Waters' (1987) belief that they need to be able to influence the selection of material, and they bring with them a variety of personalities, interests, and strengths. They also constitute a sensitive population who may resist a "push" of new materials from Curriculum.

Since the ANC is such a departure from our traditional material, to maintain a positive relationship with and to maximize its acceptance by the users, supplemental materials of the ANC have been delivered to the instructors for classroom use as they have been developed. One of these supplements is the booklet *Aviation on the Internet*, which provides instructors with a comprehensive resource for student research using the World Wide Web, and for use of Jigsaw, a well-proven process first developed by Aronson in conjunction with others (1978), and described in terms of its more recent utility as a cooperative learning method by Coelho (1997). Supplements such as this act as "bridges" to the new ANC, reducing the trauma of change and gradually building positive anticipation of the rest of the material. Instructor interests that relate to the various portions of the ANC will be exploited in order to provide in-service training to other newer instructors, and to foster emotional investment in the material to come. A concentrated in-service training session will be held for a few days just before the material is officially released for use, and those instructors who have been selected to provide training on different aspects of the ANC will provide the nucleus of the training. They will be the "Mini SMEs." The course writer and project officer will also conduct part of the familiarization. The course writer who wrote the material will be the first to teach it, as a team teacher with one of the aviation unit's newest instructors. As new instructors are brought into the unit, they will be assigned mentors from the unit and will be "sheltered" by teaching the ANC starting with the orientation week and working through the primary blocks of instruction.

Logistic Support

In order to fully meet the needs of the students, the ANC will require storage space for the variety of supplemental materials and audiovisual aids that are planned to be available for classroom and student use. Flight manuals for a wide range of aircraft must be available for reference and research by the students. Also, aviation periodicals, videotapes, commercial textbooks, articles, plotters, flight computers, etc., will need to be stored but available for use. A classroom is planned as the reference room. Instructors will be allowed to check out the necessary equipment/materials to use in their classrooms, but a system to ensure accountability will need to be established, or the supply will gradually erode.

BENEFITS OF RESTRUCTURING

By shifting our focus to a more flexible approach via the ANC, DLIELC expects that we will be providing more opportunities for the instructors to tailor

their instruction to the specific needs of each student. We will be focusing more attention on language and less attention on discrete technical detail, and providing a more seamless continuation of the speaking fluency objectives that many of our students have just accomplished in their preliminary oral proficiency skills course. We will be providing an increased amount of more relevant, realistic, and timely radio communication to the students. We will be giving the instructors more opportunities to manage the sequence and focus of instruction for their classes, and to keep their classes for longer periods of time than the one-to-two weeks they typically have with their classes now. Finally, we expect that we will be providing the students with a more meaningful assessment of their language performance, and a richer total language learning experience.

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